

ALSTON & BIRD LLP

The Atlantic Building
950 F Street, NW
Washington, DC 20004-1404

202-239-3300
Fax: 202-654-4989
www.alston.com

Marianne R. Casserly

Direct Dial: 202-239-3379

Email: marianne.casserly@alston.com

September 19, 2014

VIA COURIER

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Room TW-A325
Washington, DC 20554

ACCEPTED/FILED

SEP 19 2014

Federal Communications Commission
Office of the Secretary

Re: *Joint Petition for Waiver submitted by Autoliv ASP, Inc. and
Caterpillar, Inc.*

Dear Ms. Dortch:

Please find enclosed for filing an original and four copies of a Request for Extension of Waiver submitted by Autoliv ASP, Inc. and Caterpillar, Inc. This Petition for Waiver seeks a limited waiver of the vehicular radar emission requirement that went into effect on January 1, 2014, as established in 47 C.F.R. § 15.515(c).

We are providing with this filing an extra copy; please date stamp and return this copy to us for our records.

Sincerely,

ALSTON & BIRD LLP

Marianne R. Casserly

Marianne R. Casserly

Encl.

No. of Copies rec'd 0 + 4
List ABCDE

Before the
FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of)
)
)

AUTOLIV ASP, Inc.)
and)
CATERPILLAR, INC.)
)

Petition for Waiver)
_____)

ET Docket No. 13-280

ACCEPTED/FILED

SEP 19 2014

**Federal Communications Commission
Office of the Secretary**

TO: Office of Engineering & Technology

REQUEST FOR EXTENSION OF WAIVER

ALSTON & BIRD LLP
Marianne Roach Casserly, Esq.
950 F Street NW
Washington, DC 20004
(202) 239-3379

*Counsel for Autoliv ASP, Inc. and
Caterpillar, Inc.*

September 19, 2014

INTRODUCTION

Autoliv ASP, Inc. ("Autoliv") and Caterpillar, Inc. ("Caterpillar"), through their attorneys, and pursuant to Section 1.3 of the Commission's Rules, 47 C.F.R. § 1.3, respectfully submit this joint Request for Extension of Waiver (this "Request") to the Federal Communications Commission (the "FCC" or "Commission"). This filing seeks an extension of the waiver granted by the Commission on December 30, 2013, which waived the emission requirement set forth in Section 15.515(c) of the Commission's Rules, 47 C.F.R. § 15.515(c). The parties' original Petition for Waiver is attached as Exhibit One, and the Commission's grant of the waiver is attached as Exhibit Two.

The parties seek an extension of the waiver to address continuing technical challenges that have arisen in transitioning Caterpillar vehicles to a compliant radar product. This Request also seeks a slight modification to address Autoliv's planned transition of its C4 manufacturing capabilities from Massachusetts, to Ontario, Canada. In the original waiver request, Autoliv sought a waiver to manufacture the C4 radar in Massachusetts. Since that time, Autoliv has determined that it will move the assembly lines capable of producing the C4 radar to its affiliate company located in Canada in late 2014, and thus Autoliv seeks to modify the waiver to allow it to import the C4 from Canada.

BACKGROUND

A general background discussing Autoliv's and Caterpillar's business operations, as well as the basis for the current Waiver is set forth in Autoliv's Original Petition (See Exhibit 1). As the Commission may recall, the radar products subject to the Original Petition, as well as this Request for Extension of Waiver are used for safety purposes (ie.,

the detection of people and objects in close vicinity of the Caterpillar Large Mining Trucks and Large Wheel Loaders which are not visible by the operator of these large machines.

As explained in the Original Petition, Autoliv and CAT had been working since 2011 to transition the CAT vehicles from C4 radars and very late in the validation process in 2013 significant technical issues surfaced which could not have been anticipated. As a result of those issues, the parties sought the original waiver and continued to investigate the technical issues. Autoliv and Caterpillar reasonably believed that through additional vehicle testing, engineering analysis and investigation they would be able to fully solve the detection level issues which continue to affect the performance of the radar product that was selected to replace the CAT Parts. Since the granting of the current Waiver, the parties have taken extraordinary measures to try to resolve the technical challenges, including:

- Extensive vehicle-level testing;
- Extensive vehicle simulation testing;
- Acquisition of a specialized radar simulation computer analysis program;
- Dedication of a team of employees at both Autoliv and Caterpillar working to solve the issues;
- Reallocation of internal resources to support engineering and software development/analysis;
- Extended engineering workshops onsite to further assess and evaluate technical solutions;
- Aggressive and time consuming software updates designed to improve radar performance in the Caterpillar vehicle environment; and
- Problem solving engineering reviews/analysis.

Unfortunately, it is now apparent that the radar product which was intended to replace the C4 is unable to be adapted to perform in the Caterpillar vehicles. This significant setback has resulted in Autoliv and Caterpillar having to select a different radar product for use in the Caterpillar vehicle environment, and to essentially restart the

product change process. Even under a compressed timing schedule, this process is anticipated to take at least one (1) year, assuming minimal adaptation issues arise.

Accordingly, the parties respectfully request that the current waiver be extended to authorize the manufacture and import of the C4 radar on a limited basis through December 31, 2016. The parties anticipate that the future need for the C4 radar will be limited in time and in volume of radars. They anticipate that a two-year waiver will provide the time necessary to complete the required modifications, and that the volume of C4 radars will not exceed 3,000 units each year. As described in the original Petition for Waiver, each Caterpillar vehicle requires two (2) to eight (8) radar units, depending on the size of the vehicle.

Autoliv also seeks a minor modification of the original waiver to allow Autoliv to import the C4 into the United States. The waiver granted by the Commission on December 30, 2013, permits Autoliv to manufacture the C4 device in the United States. Autoliv plans to transition the plant that manufactures the C4 radar from Massachusetts to Ontario, Canada in late 2014, and thus Autoliv seeks to modify the waiver to allow it to import the C4 from Canada following the plant relocation. Caterpillar continues to require a waiver to import the C4 as well, because after Autoliv imports the C4 into the U.S. and delivers it to Caterpillar, Caterpillar then ships the C4s to Canada for inclusion in a larger assembly, which is then re-imported into the U.S.

REQUEST FOR RELIEF

Autoliv and Caterpillar seek an extension of the waiver of the requirement in Section 15.515(c) that equipment authorized, manufactured, or imported on or after January 1, 2014 have a level of attenuation at 35 dB for certain specified emissions

within the 23.6 – 24.0 GHz band. The parties seek a limited extension of the waiver to meet Caterpillar's need to continue with the C4 radar.

Section 1.3 of the Commission's Rules allows the Commission to waive its rules "for good cause shown." 47 C.F.R. § 1.3. Good cause exists to extend the waiver of the requirements of Section 15.515(c), for four primary reasons:

- 1) Autoliv & Caterpillar have been actively working for more than three years to transition Caterpillar's vehicles to a radar that complies with the emission requirements that went into effect on January 1, 2014. The parties have faced unforeseen technical challenges along the way and have devoted significant manpower and resources to try to overcome these challenges;
- 2) Safety reasons exist to justify the grant of a limited waiver to allow for safe operation of Caterpillar vehicles until the time that new vehicles can be switched to a compliant radar, as the radars offer an additional layer of protection and increased awareness in the vicinity of the vehicle, where the operator might not have a good line of sight;
- 3) The requested waiver will be temporary in time (through December 31, 2016); limited in scope (the parties anticipate requiring no more than 3,000 C4 units per year); and will apply only to the provision of radars to Caterpillar; and
- 4) In adopting the emission standards that went into effect on January 1, 2014, the Commission expressed concern about the "cumulative impact of the potentially tens of thousands of transportation vehicles

employing these radar devices.” *See In re Revision of Part 15 of Commission's Rules Regarding Ultra-Wideband Transmission Systems*, First Report & Order, ET Docket No. 98-153, 17 F.C.C.R. 7435, para. 196 (2002). The Caterpillar vehicles in which the C4 radar are installed are often used in mining operations and other industrial environments where there is not a high density of passenger vehicles in the vicinity. Moreover, the waiver request is limited to a relatively small number of vehicles, as it would result in about 3,000 radars per year. Therefore grant of this waiver will not have a large cumulative impact.

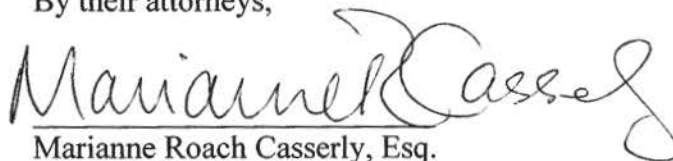
CONCLUSION

For the reasons set forth herein, and pursuant to Section 1.3 of the Commission's Rules, Autoliv and Caterpillar seek an extension of the waiver of Section 15.515(c) emission requirements to meet the specific need of Caterpillar, Inc. as described herein.

Dated: September 19, 2014

AUTOLIV ASP, INC. and
CATERPILLAR INC.

By their attorneys,

A handwritten signature in black ink, appearing to read "Marianne Roach Casserly", is written over the printed name and firm information.

Marianne Roach Casserly, Esq.
ALSTON & BIRD LLP
950 F Street NW
Washington, DC 20004
(202) 239-3379
Marianne.Casserly@alston.com

EXHIBIT ONE

Before the
FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of)
)
)

AUTOLIV ASP, Inc.)
and)
CATERPILLAR, INC.)
)

Petition for Waiver)
_____)

Docket No. _____

RECEIVED - FCC

OCT 31 2013

Federal Communications Commission
Bureau / Office

TO: Chief, Office of Engineering & Technology

PETITION FOR WAIVER

EXPEDITED TREATMENT REQUESTED

ALSTON & BIRD LLP
Marianne Roach Casserly, Esq.
950 F Street NW
Washington, DC 20004
(202) 239-3379

*Counsel for Autoliv ASP, Inc. and
Caterpillar, Inc.*

October 31, 2013

INTRODUCTION

Autoliv ASP, Inc. ("Autoliv") and Caterpillar, Inc. ("Caterpillar"), through their attorneys, and pursuant to Section 1.3 of the Commission's Rules, 47 C.F.R. § 1.3, respectfully submit this joint Petition for Waiver (this "Petition") to the Federal Communications Commission (the "FCC" or "Commission"), seeking a waiver of the emission requirement set forth in Section 15.515(c) of the Commission's Rules. Section 15.515 establishes certain technical requirements for vehicular radar systems, and includes the requirement in Section 15.515(c) that equipment authorized, manufactured, or imported on or after January 1, 2014 have a level of attenuation at 35 dB for certain specified emissions within the 23.6 – 24.0 GHz band.

Autoliv has been diligently working with all of its customers to transition to radars which will meet emission standards set forth in Section 15.515(c) of the Commission's Rules on January 1, 2014. In particular, Autoliv and one of its customers, Caterpillar, have been working since mid-2011 to transition Caterpillar vehicles to radars which will meet these new emission standards. Despite substantial efforts, unforeseen technical challenges have recently surfaced during final product validation stages inhibiting the timely transition to a compliant radar product. The nature of the technical challenges, which are more fully discussed below, require Autoliv to seek a limited waiver to manufacture Autoliv's C4 radars in 2014, and for Caterpillar to import C4 radars in 2014, while technical solutions are determined and validated.

Autoliv and Caterpillar request expedited treatment of this Petition for Waiver. It is imperative that this matter be resolved as expeditiously as possible to allow Autoliv to continue manufacturing the C4 radar in 2014, and for Caterpillar to import the device, for

the limited purpose described herein. Autoliv and Caterpillar also provide affidavits in support of this filing, attached as Exhibits A and B.

BACKGROUND

I. Background on Autoliv and Caterpillar.

Autoliv is the worldwide leader in automotive safety systems. It develops and manufactures automotive safety systems for all major automotive manufacturers in the world. Its products include airbags, seatbelts, steering wheels, passive safety electronics and active safety systems such as radar, night vision and camera vision systems.

Together with its joint ventures, the Autoliv Group of companies has approximately 80 facilities with more than 52,000 employees in 29 countries. In addition, the Autoliv Group has 10 technical centers in nine countries around the world, with 21 test tracks, more than any other automotive safety supplier. Consolidated sales in 2012 amounted to U.S. \$8.3 billion. Autoliv, Inc., (the parent company of Petitioner)'s shares are listed on the New York Stock Exchange (NYSE: ALV) and its Swedish Depository Receipts on the OMX Nordic Exchange in Stockholm (ALIV sdb).

Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines, and diesel-electric locomotives. In 2012, Caterpillar had sales and revenues of \$65.875 billion. As of December 31, 2012, Caterpillar employed 125,341 persons. Caterpillar is traded on the New York Stock Exchange (NYSE: CAT).

II. Factual Background.

Autoliv¹ supplies vehicular radar systems for the automotive and heavy equipment industries and currently offers four (4) variants of radar products for vehicular applications: C4, C5, C6 and Narrowband. These radar devices are used for a variety of purposes, including blind spot detection, rear cross-traffic alert, lane change assist, forward collision warning, autonomous emergency braking, and adaptive cruise control.

Vehicular radars report vital information, such as range, angle and Doppler velocity to vehicle systems, which in turn, alert the driver to potential hazards. Autoliv's radars operate in virtually every condition (e.g., sunny/dry, raining/wet, sleet/snow, dark/light, heavy traffic/light traffic, etc.) and provide a safety warning to vehicle drivers.

Autoliv's C4 radar (which has been widely used in the market since 2005) meets the current emission standards, but it does not meet the new emission requirements set to go into effect on January 1, 2014. Autoliv's C5, C6, and Narrowband radars (hereinafter collectively referred to as the "Dually Compliant Vehicular Radars") meet both the current emission standards and the new emission requirements set to go into effect on January 1, 2014. To date, and in anticipation of the change in emission standard established in Rule 15.515(c), Autoliv has successfully transitioned more than 99% of its radar sales to the Dually Compliant Vehicular Radars.

It has recently become apparent that, due to unforeseen technical challenges, one of Autoliv's customers, Caterpillar, will be unable to timely transition to a Dually Complaint Vehicular Radar until sometime in 2014. It is therefore necessary that

¹ References to "Autoliv" in this Petition include predecessor companies. In September 2008, Autoliv acquired certain assets from Tyco Electronics Group, S.A., including certain vehicular radar assets and related orders.

Autoliv and Caterpillar pursue this Petition for a limited waiver to allow for manufacturing and import of C4 radars in limited quantities through 2014.

Caterpillar uses the Autoliv radars in its Large Mining Trucks and Large Wheel Loaders – vehicles that are used in industrial environments, including underground mining. The radars are used for safety purposes, primarily to detect trucks and people around the Caterpillar machines and to alert the operator of such so as to avoid potential accidents. The radars are an important safety feature of these industrial vehicles, and give the operator of the vehicle enhanced visibility around the close perimeter of these large, industrial vehicles. The radars alert the operator of objects in the vicinity of the vehicle. When the radars detect an object, the vehicle operator can view, on a screen in the driving compartment, the zone where the radar is reporting an object exists (e.g., persons, other vehicles, etc.).

Design and development of the Large Mining Trucks and Large Wheel Loaders occurs over a number of years and involves a substantial amount of resources including but not limited to: product and system developments, engineering, safety analysis, and product validation. Design and development of the radar system is equally involved inasmuch as the radar system must be designed, developed and calibrated to the specific Caterpillar vehicle. In the instant case, this involves the development, design, placement, tuning, and testing of two (2) to eight (8) radar sensors all of which must be appropriately configured, placed, and validated to work together to detect hazards and report data to the vehicle's radar system.

Autoliv and Caterpillar have been working since mid-2011 to transition the Caterpillar vehicles to a Dually Compliant Vehicular radar, in preparation for meeting the

emission requirements that go into effect on January 1, 2014, under Section 15.515(c) of the Rules. During the product validation stage (which generally concludes just prior to launch of serial production) certain technical anomalies have become apparent which require Autoliv and Caterpillar to further investigate root cause and determine and validate radar product changes in order to remedy the concerns. Particularly, by way of example, during final validation testing, it was discovered that the "field of view" of the new radars were not performing at acceptable detection levels once installed in the Caterpillar vehicles which may lead to non-detection of objects or persons in close proximity to the large Caterpillar vehicles.

Autoliv and Caterpillar have been working closely to investigate and remedy this condition. At this time, comprehensive vehicle-level testing is underway by Caterpillar and Autoliv to further evaluate the technical issues. Based on initial results, it appears likely that the radars will require certain modifications, which may include changes to the packaging of the sensors into the CAT vehicle and adjustments to the software algorithms to further adapt them for use in this particular vehicle environment. The contemplated changes require substantial system validation testing in order to confirm radar system performance for the CAT vehicle. Unfortunately, the changes cannot be implemented in serial production of the CAT vehicle until this validation process is successfully completed.

These technical challenges were not anticipated in this transition (and recently discovered near the end of a six (6) month validation process). These types of modifications require specialized analysis, including re-performing validation testing (typically validation testing can take six (6) months to complete) once the modifications

are determined and completed to confirm the radars will properly work in the heavy equipment environment.

Despite Autoliv's and Caterpillar's best efforts, the necessary work involved to adapt Dually Compliant Vehicular Radars for use in the Caterpillar environment remains ongoing and, at this time, they anticipate those activities will not be completed until 2014. Therefore, it is critical that Caterpillar be able to continue to use the C4 radar for a limited period of time while Autoliv and Caterpillar continue to pursue a technical resolution to allow Caterpillar to transition to a compliant radar system.

Autoliv and Caterpillar anticipate that the need to continue using the C4 radar will be limited in time and in volume of radars. The parties anticipate that a one-year waiver will provide the time necessary to complete the required modifications. Autoliv manufactures the C4 in Lowell, Massachusetts, and thus requires a waiver for manufacturing the device after January 1, 2014. Caterpillar requires a waiver because it assembles the C4 radar into a larger piece of equipment in Canada, and then ships that larger assembly to the U.S. for installation in Caterpillar vehicles. Also, as set forth in the attached Affidavit, Caterpillar projects that the C4 radars will be used on approximately 900 vehicles in 2014².

III. Legal Background.

Section 15.515(c) of the FCC's rules sets forth emission standards that have evolved over time, with one standard applicable to equipment manufactured after January 1, 2005, another standard applicable to equipment manufactured after January 1, 2010,

² This number may be less, depending on how quickly the modification work can be completed, taking into consideration the six (6) month validation process which must follow such modification.

and another standard applicable to equipment manufactured after January 1, 2014. *See* 47 C.F.R. § 15.515(c). The standard at issue in this Petition for Waiver reads as follows:

For equipment authorized, manufactured or imported on or after January 1, 2014, this level of attenuation shall be 35dB for any emissions within the 23.6-24.0 GHz band that appear 30 degrees or greater above the horizontal plane.

Id.

In adopting this rule in 2002, the Commission discussed the fact that its “primary interference concern with vehicular radar systems is cumulative interference to passive sensing systems operating in the 23.6 to 24.0 GHz band on low earth orbiting satellites, including meteorological satellite.” *In re Revision of Part 15 of Commission's Rules Regarding Ultra-Wideband Transmission Systems*, First Report & Order, ET Docket No. 98-153, 17 F.C.C.R. 7435, para. 195 (2002) (hereinafter the “UWB Order”). The Commission also discussed its interest in ensuring that the “cumulative impact of the potentially tens of thousands of transportation vehicles employing these radar devices” does not result in harmful interference to the passive satellite receivers. *Id.* at para. 196.

The Commission thus set forth a phased-in approach aimed at ultimately achieving an emission standard of 35 dB as of January 1, 2014. *Id.*; *see also* 47 C.F.R. § 15.515(c). While noting that the analysis leading to these emission standards may be “overly conservative,” the Commission nonetheless adopted the standards to ensure that the impact of “tens of thousands” of vehicles using vehicular radar systems would not interfere with satellite operations. *See* UWB Order at paras. 64, 195-96.

REQUEST FOR RELIEF

Autoliv and Caterpillar seek a waiver of the requirement in Section 15.515(c) that equipment authorized, manufactured, or imported on or after January 1, 2014 have a level

of attenuation at 35 dB for certain specified emissions within the 23.6 – 24.0 GHz band. The parties seek a waiver limited to meet Caterpillar's need to continue with the C4 radar for a limited time.

Section 1.3 of the Commission's Rules allows the Commission to waive its rules "for good cause shown." 47 C.F.R. § 1.3. Good cause exists to allow a waiver of the requirements of Section 15.515(c), for four primary reasons:

- 1) Autoliv & Caterpillar have been actively working for more than two years to transition to a new radar in anticipation of the new emission requirements and it has only recently become apparent, at the end of the validation process, that certain technical issues must be resolved before the transition can be made. These technical issues were not apparent until the end of the validation process and are unique to Caterpillar, as its use of the radars differs from the way that manufacturers of passenger vehicles use the radars;
- 2) Safety reasons exist to justify the grant of a limited waiver to allow for safe operation of Caterpillar vehicles until the time that new vehicles can be switched to a Dually Compliant Vehicular Radar, as the radars offer an additional layer of protection and increased awareness in the vicinity of the vehicle, where the operator might not have a good line of sight. Therefore, a grant of this waiver will advance the public interest;
- 3) The requested waiver will be temporary in time and limited in scope to apply only to the specific customer need described herein; and

- 4) A limited number of vehicles will be impacted by this waiver. In adopting the emission standards that are to go into effect on January 1, 2014, the Commission expressed concern about the “cumulative impact of the potentially tens of thousands of transportation vehicles employing these radar devices.” See UWB Order at para. 196. This waiver request is limited to a relatively small number of vehicles, as it would result in the C4 radar being used in a total of approximately 900 vehicles for Caterpillar being sold globally. The radars used in these vehicles are fully compliant with today’s rules and thus are clearly not a danger or threat to public safety. Also, as discussed above, the Caterpillar vehicles in which the C4 radar is installed are often used in underground mining operations and other industrial environments where there is not a high density of passenger vehicles in the vicinity.

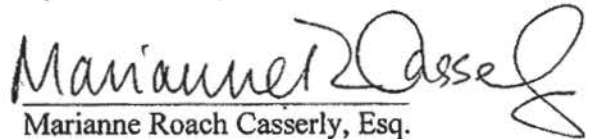
CONCLUSION

For the reasons set forth herein, and pursuant to Section 1.3 of the Commission's Rules, Autoliv and Caterpillar seek a waiver of Section 15.515(c) emission requirements to meet the specific need of Caterpillar, Inc. as described herein.

Dated: October 31, 2013

AUTOLIV ASP, INC. and
CATERPILLAR INC.

By their attorneys,

A handwritten signature in black ink, appearing to read "Marianne Roach Casserly". The signature is fluid and cursive, with a large, stylized "C" at the end.

Marianne Roach Casserly, Esq.
ALSTON & BIRD LLP
950 F Street NW
Washington, DC 20004
(202) 239-3379
Marianne.Casserly@alston.com

Exhibit A
(Affidavit of Autoliv ASP, Inc.)

Before the
FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of)	
AUTOLIV ASP, Inc.)	Docket No. -----
and)	
CATERPILLAR, INC.)	
Joint Petition for Waiver)	

**AFFIDAVIT OF AUTOLIV ASP, INC.
IN SUPPORT OF JOINT PETITION FOR WAIVER**

I, Brad Kruse, hereby depose and state as follows:

1. I am the Business Development Manager – Active Safety Products of Autoliv ASP, Inc. (“Autoliv”). I submit this Affidavit in support of the joint Petition for Waiver filed by Autoliv and Caterpillar, Inc. (“Caterpillar”). In my role at Autoliv, I have personal knowledge of the matters discussed in this affidavit and the Joint Petition for Waiver.

2. Autoliv is the worldwide leader in automotive safety systems. It develops and manufactures automotive safety products for all major automotive manufacturers in the world. Its products include airbags, seatbelts, steering wheels, passive safety electronics and active safety systems such as radar, night vision and camera vision systems.

3. As a manufacturer of vehicular radars, over the past few years Autoliv has been diligently working with all of its customers to transition to radars that will meet the FCC emission standards that go into effect on January 1, 2014 as provided under Section

15.515(c) of the Rules. To date, and in anticipation of the change in emission standard, Autoliv has successfully transitioned more than 99% of its vehicular radar sales to radars that will comply with the new standard.

4. One of the customers that Autoliv has been working with is Caterpillar. Since mid-2011, Autoliv and Caterpillar have been working to transition Caterpillar vehicles to a radar that will meet the emission requirements that go into effect on January 1, 2014. During the product validation stage for Caterpillar's transition to the new radar, certain technical anomalies have become apparent which require Autoliv and Caterpillar to further investigate the root cause and determine and validate radar product changes in order to remedy the concerns. Particularly, by way of example, during final validation testing, it was discovered that the "field of view" of the new radars were not performing at acceptable detection levels once installed in the Caterpillar vehicles which may lead to non-detection of objects or persons in close proximity to the large Caterpillar vehicles.

5. Autoliv and Caterpillar have been working closely to investigate and remedy this condition. At this time, comprehensive vehicle-level testing is underway by Caterpillar and Autoliv to further evaluate the technical issues.

6. As a result of these challenges, it has recently become apparent Caterpillar will have a continued need for Autoliv's C4 radar in 2014, while the technical challenges with the new radar are resolved. The C4 radar meets the FCC's current emission standards, but will not meet the revised emission standard going into effect on January 1, 2014. The C4 radar is manufactured in Lowell, Massachusetts.

Signed under the pains and penalties of perjury this 30th day of October, 2013.


Brad Kruse

Exhibit B
(Affidavit of Caterpillar, Inc.)

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)

AUTOLIV ASP, Inc.)
and)
CATERPILLAR, INC.)

Joint Petition for Waiver)
_____)

Docket No. ----

AFFIDAVIT OF CATERPILLAR, INC.
IN SUPPORT OF JOINT PETITION FOR WAIVER

I, Geoff Ginzl, hereby depose and state as follows:

1. I am a Product Manager within Caterpillar Inc. ("Caterpillar"). I submit this Affidavit in support of the joint Petition for Waiver filed by Autoliv ASP, Inc. and Caterpillar. In my role at Caterpillar, I have personal knowledge of the matters discussed in this affidavit and the Joint Petition for Waiver.

2. Caterpillar uses the C4 radar in its Large Mining Trucks and Large Wheel Loaders. These vehicles are used in industrial environments, including underground mining. The radars are used for safety purposes, primarily to detect trucks and people around the Caterpillar machines and to alert the operator of such so as to avoid potential accidents. The radars are an important safety feature of these industrial vehicles, and give the operator of the vehicle enhanced visibility around the close perimeter of these large, industrial vehicles. The radars alert the operator of objects in the vicinity of the vehicle. When the radars detect an object, the vehicle operator can view, on a screen in the driving compartment, the zone where the radar is reporting an object exists (e.g., persons, other vehicles, etc.).